



Scitex Vision Grandjet Classic Printer

using software version: 4.010

Care and Maintenance Guide



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4.350.996 4.456.924 4.500.919 4.834.520 4.853.709 5.079.721 5.103.407
5.111.308 5.113.249 5.119.440 5.122.871 5.124.547 5.150.225 5.153.769
5.155.782 5.157.516 5.200.816 5.208.888 5.221.997 5.227.895 5.247.174
5.247.352 5.296.935 5.299.020 5.313.278 5.323.248 5.325.217 5.328.032
5.331.439 5.333.064 5.339.176 5.343.059 5.355.446 5.359.458 5.367.388
5.384.648 5.384.899 5.412.491 5.412.737 5.420.702 5.473.733 5.481.379
5.488.906 5.497.252 5.508.828 5.509.561 5.519.792 5.519.852 5.526.107
5.526.143 5.532.728 5.561.691 5.568.595 5.576.754 5.579.115 5.592.309
5.594.556 5.600.448 5.608.822 5.615.282 5.623.001 5.636.330 5.649.220
5.650.076 5.652.804 5.691.823 5.691.828 5.696.393 5.699.174 5.708.736
5.739.819 5.742.743 5.764.381 5.771.794 5.785.309 5.813.346 5.861.904
5.875.288 5.894.342 5.900.981 5.934.196 5.940.099 5.942.137 5.946.426
6.217.148 6.409.310

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Use of this Guide

Capable of withstanding continuous use for long periods of time, the Scitex Vision Grandjet Classic printer is able to cope easily with demanding, large-volume print runs. In keeping with this capability, routine care and maintenance procedures are recommended in order to maintain the system in proper working order, minimize any down-time, and ensure consistent, high-quality print output.

This guide is intended for use by system operators, and the information given applies to the Grandjet Classic printer model. Using the recommended guidelines for care and maintenance procedure frequency, together with the step-by-step instructions provided, will enhance print production and ensure smooth and trouble-free operation of all system components.

The abbreviations and acronyms used throughout this guide are listed below.

Abbreviation	Meaning
CMYK	Cyan, magenta, yellow, and black.
FSE	Field Service Engineer
PDU	Power Distribution Unit
UPS	Uninterrupted Power Supply

Safety Definitions

Safety instructions are provided for the protection of system operators and field service engineers (FSEs). The following safety conventions are used to classify and identify hazards that will, or may occur, if instructions are ignored:

DANGER



Danger is used to identify conditions or actions for which a specific hazard is known to exist, and which *will cause* severe personal - or even fatal - injury, or substantial equipment damage, if the instructions are ignored.

WARNING



Warning used to identify conditions or actions for which there is a known risk of Electrical Shock, which *may cause* serious (or even fatal) injury if the instructions are ignored.

WARNING



Warning used to identify conditions or actions for which a specific hazard of a non-electrical nature is known to exist, which *may cause* personal injury or equipment damage, if the instructions are ignored

CAUTION



Cautions are used to identify conditions or actions for which a potential hazard may exist, which will or can cause minor personal injury or equipment damage, if the instructions are ignored.

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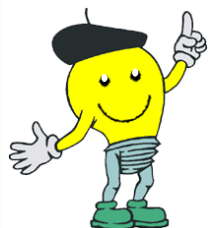
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Care and Maintenance

the “What to do When” guide

Daily

- Visual Check of System
- Clean Printer and Print Production Area
- Check Safety Devices
- Check Pneumatic System
- Refill Main Ink Tanks
- Clean & Test Print Heads

Weekly

- Check Printer for Levelness
- Grease Linear Bar
- Inject Print Heads with Solvent (advanced cleaning)
- Empty Waste Ink Tank
- Check UPS (if applicable)
- Check Pressure Shafts and Pistons

Every 3 Months

- Replace Ink Filters

As Required

- Replace Print Head/s



Adhesive sticker - for a convenient reminder, peel off backing and attach to printer in a prominent position!

Chapter I

Safety Information



Contents at a glance ...

General Safety Guidelines I-2

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General Safety Guidelines

The Grandjet Classic printer is designed and manufactured to ensure maximum safety of operation. It should be installed, operated, and maintained in strict compliance with the safety precautions, warnings, and operating instructions contained in the Scitex Vision Grandjet Classic User Manual, as well as those provided in this guide.

1. The Grandjet Classic printer has been designed to meet all the safety requirements applicable to printing equipment. However, anyone attempting to operate the system must be fully aware of potential safety hazards.
2. The product should be installed, maintained, and serviced by qualified field service engineers (authorized by Scitex Vision Ltd.), in accordance with the information in the and the . It should be operated and routinely maintained according to the procedures provided in the Scitex Vision Grandjet Classic User Manual, and in this guide.
3. The Grandjet Classic printer must have a dedicated mains power supply which must not - *under any circumstances* - be used for additional equipment.
4. If the system is to be connected to an uninterrupted power supply, only a UL-authorized UPS is to be used.
5. The Grandjet Classic printer must **never** be used without proper ventilation in the print production area.

Details of extraction system air flow operating requirements are provided in the Scitex Vision Grandjet Classic User Manual - see Appendix for Technical Specifications.
6. The system in whole, or in part, should not be modified in any way without obtaining the prior written approval of Scitex Vision Ltd.
7. The owner should make certain that only properly trained, fully qualified personnel are authorized to operate the Grandjet Classic printer. An authorized operators list should be maintained.
8. Unauthorized personnel should *not* be allowed access to the system.
9. It is important that this and all other Grandjet Classic printer manuals should be kept close at hand, studied carefully, and reviewed periodically by the authorized technicians and system operators.

However, the manufacturer or Vendor of the equipment makes no representation, that the act of reading this guide, or other Grandjet Classic printer manual, renders the reader qualified to operate, test, or calibrate the system.

10. If the printer does not operate properly, or fails to respond to the controls as described in the Scitex Vision Grandjet Classic User Manual or in this guide, the operator should:

- Switch OFF power to the printer.
- Follow the safety precautions as specified in this manual and other Grandjet Classic printer manuals.
- Immediately contact the service office, report the incident, and await further instructions.

11. For recommended care and maintenance of the system, refer to the appropriate instructions given in this guide. For quick reference, an adhesive [Care & Maintenance Chart](#) is provided on page ix.

12. Electrical Shock Hazard

DANGER



Internal circuits use high voltage (220V) capable of causing death or serious personal injury.

IT IS DANGEROUS AND THEREFORE FORBIDDEN TO:

- Dismantle electrical control cabinet cover
- Attempt to remove or open any other closed system covers or plugs!

The following are examples of safety labels to warn of possible electrical hazards, and supplied as standard with the system:



Protective Earth - Do not disconnect

WARNING



An electrical hazard may exist if any light, monitor or visual indicator stays **ON**.

To prevent possible injury, immediately turn **OFF** the switch on the wall-mounted mains power distribution box.

CAUTION



Fuses blown within 36 hours of being replaced may indicate malfunctioning electrical circuits within the system.

Have the system checked by qualified service personnel, and *do not attempt to replace the fuse again!*

13. Fire Hazard

DANGER



Solvent and solvent-based ink used with the Grandjet Classic printer have *flammable* and *irritant* properties.^a

Combustion products: Oxides of Carbon.

a. Chemicals hazard information and packaging for supply (CHIP) classification

reference



For full details, refer to the Material Safety Data Sheets provided in the Scitex Vision Grandjet Classic User Manual - see the Appendix.

WARNING



Extreme care must be taken when handling inks and solvent, to prevent the risk of fire. Do not permit smoking or naked flames in the print production or storage areas and ensure that warning signs (see below) are prominently displayed in appropriate positions.



WARNING



To avoid electrical shocks or burns caused by using the wrong type of fire extinguisher, make sure your fire extinguisher has been approved for use on electrical fires.

Approved Fire Extinguisher	Suitable Extinguishing Media
 Class B	Halon gas or dry powder

System operators should ensure that the print production area is kept clean and tidy. Since solvent and inks used with the Grandjet Classic printer have *flammable* properties, surfaces where any ink spillage or leakage has occurred (for example, behind the main ink tanks or on the floor) must be wiped clean immediately.

Always check that all main ink tanks are properly closed.

The waste ink tank should be emptied routinely, as necessary

CAUTION



Conductive fluids that seep into the active circuit components of the system may cause short circuits that can result in electrical fires. Do not place any liquid or food on any part of the system.

14. Explosion Hazard

DANGER



Solvent and solvent-based ink used with the Grandjet Classic printer have *flammable* and *irritant* properties.^a

Combustion products: Oxides of Carbon.

a. Chemicals hazard information and packaging for supply (CHIP) classification

reference



For full details, refer to the Material Safety Data Sheets provided in the Scitex Vision Grandjet Classic User Manual - see the Appendix.

WARNING



Extreme care must be taken when handling inks and solvent, to prevent the risk of explosion.

Do not operate the system in the presence of explosive liquids, vapors, or gases.

Keep all sources of ignition away from the printer and work area.

Do not plug in or turn ON power to the system if hazardous substances are detected in the environment. Should these substances be detected after the system has been turned on, do not attempt to unplug it, or turn OFF power.

Evacuate and ventilate the area *before* turning OFF power to the system.

15. Heavy Material Hazard

Special care must be taken to avoid personal injury when handling heavy substrates. See [Handling Substrate Rolls](#) on page 1-7.

Scitex Vision Grandjet Classic Printer Safety Apparatus

Emergency Stop Safety Devices

The Grandjet Classic printer is equipped with three types of emergency safety devices, as follows:

- Head Carriage Emergency Stop Mechanism
- Main Emergency Stop Buttons
- Piston Emergency Stop Buttons

The operator must be familiar with the location and operation of each type of safety device; these are illustrated in detail in this guide, as well as in the Scitex Vision Grandjet Classic User Manual.

Safety Warning Labels

Grandjet Classic printers are supplied with safety warning labels fitted securely in prominent positions, illustrated examples of which are shown in the Scitex Vision Grandjet Classic User Manual (see Chapter One, Safety Information).

Additional quantities of certain labels are supplied with the system, for strategic placement within the print production and storage areas.



All emergency safety devices fitted to the Grandjet Classic printer must be checked at system start-up.

In addition, they should be tested every day, in accordance with the instructions provided in this guide - see [Checking the Emergency Stop Safety Devices](#) on page 2-3.

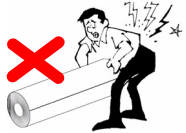
Routine Precautionary Measures

Grandjet Classic Printer

Handling Substrate Rolls



Substrate Rolls may be extremely bulky and heavy!



When loading, unloading, or moving substrate rolls, *always* take the following precautions:

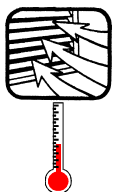
- Use substrates recommended by Scitex Vision Ltd.
- When lifting heavy substrate rolls, take extreme care to avoid back strain or injury.
- It is recommended that rolls should be lifted by a *minimum* of two persons. For heavy materials, *up to six persons* may be required.
- When lifting and moving *very heavy* substrate rolls, use of a forklift is mandatory.
- *Keep Emergency Exits clear at all times!*

Grandjet Classic Printer

Handling Ink and Solvent



When handling ink and solvent, *always* take the following precautions:



- Use *only* inks and solvent approved by Scitex Vision Ltd.
- Keep all sources of ignition far away from the printer and from the print production and storage areas to eliminate the risk of fire.
- Avoid spillage and contact with skin and eyes; wear the safety glasses and gloves provided for protection against splashing.
- Always handle inks and solvent in a well-ventilated area. To avoid inhalation of solvent fumes and vapors, wear the mask provided.
- Maintain good ventilation in the print production area.
- Wear suitable clothing and shoes whenever in the print production and storage areas.
- Store inks and solvents in closed, upright containers in normal, cool warehouse conditions.
- Dispose of waste materials in accordance with individual country safety requirements.
- *Keep Emergency Exits clear at all times!*

reference



Inks and solvent used with the Grandjet Classic printer have flammable and irritant properties. For full details, see the Material Safety Data Sheets in the Scitex Vision Grandjet Classic User Manual(Appendix).

Grandjet Classic Printer

First Aid Treatment



The following guidelines are recommended in the event of First Aid treatment being required:

Inhalation	Move operator to fresh air immediately. If there is respiratory distress, administer oxygen and seek medical attention.	
Skin Contact	 Wash affected area with soap and water. Seek medical advice in the event of ensuing dermatological problems.	
Eye Contact	 Rinse eyes immediately with copious amounts of clean water or sterile eye wash solution. If redness or soreness persists, seek medical advice.	

Chapter 2

Daily Care



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Visual Checks and General Cleaning

To maintain the Grandjet Classic printer in good working order it is advisable to make a visual check of the system *every day*. In this way, the early detection of anything unusual will help to identify signs of general wear and tear, or possible component malfunction.

By eliminating the risk of problems developing at a later stage, periods of system downtime can be significantly reduced and, in many cases, eliminated.

When making a visual check of the system, look for:



- cables excessively loose
- exposed electrical wiring
- abnormal ink leakage
- loose connections
- components overheating
- blocked vents

note



Exposed electrical wiring may not only be a potential safety hazard but could also cause interference or damage to the system.

Daily general cleaning of the printer - as well as the print production area - will help to eliminate the build-up of dust, dried ink, and dirt.



In addition, remove any obstacles or foreign objects which may have been placed inadvertently within close proximity of the printer and surrounding area, to eliminate the risk of possible safety hazards.



Checking the Emergency Stop Safety Devices

The Emergency Stop safety devices fitted to the Grandjet Classic printer must be checked *daily*, to ensure they are in proper working order. This is normally carried out as part of the system start-up procedure. However, for printers operating on a 24-hour, round-the-clock basis, it is important to ensure that this safety check is performed once per day, as a matter of routine.

Ensuring the Emergency Stop Safety Devices are fully operational requires the inspection and checking of:

- Main Emergency Stop buttons
- Head Carriage Emergency Stop mechanism
- Piston Emergency Stop buttons
- Mains Power Emergency Stop button (on wall-mounted mains power distribution unit)

Full details and method of operation of all these Emergency Stop safety devices is described the Scitex Vision Grandjet Classic printer. See the section entitled Emergency Safety Devices (Chapter 1); the position of each device on the printer is clearly illustrated in the figures provided.

Step-by-step instructions for checking that each Emergency Stop safety device is working properly are given in the following sections of this chapter.

WARNING



Immediately report the failed operation of any Emergency Stop Safety Device to your Scitex Vision Ltd. FSE and do not attempt to tamper with the system or continue with its use!

Main Emergency Stop Buttons

The system is equipped with two Main Emergency Stop buttons. These are clearly marked and are located one at each end of the Grandjet Classic printer, on the *left* and *right* sides of the main frame, as shown in [Figure 1](#).



Figure 1. Main Emergency Stop Buttons

The Main Emergency Stop buttons operate manually and when pressed, electrical power to all motors is disconnected and air is purged from the pneumatic system. The pressure shaft at the rear of the printer drops down instantaneously and all movement ceases.

Main Emergency Stop buttons should be activated in *any emergency situation*, or in the event of substrate material becoming jammed.

Whenever one of the Main Emergency Stop Buttons has been activated, once the emergency situation has been attended to and you wish to resume printing, you may release it by slightly twisting the plastic ring beneath the top of the button, until it pops up and is now in the *ready* position, as described below.

CAUTION



When performing this procedure, it is important to make sure that both the *Left* and *Right* Emergency Stop buttons have been restored to the *READY* position so that either is available for immediate use in the event of an emergency.

This will eliminate the risk of possible injury to the operator and prevent any obstruction caused by hands, fingers, clothing, or other foreign objects.

Checking the Main Emergency Stop Buttons

1. Press the Main Emergency Stop button on the *right* side of the printer.



Figure 2. **Pressing the Main Emergency Stop Button**

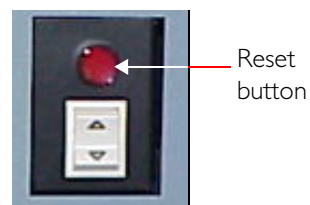
2. Check that the reaction to Step 1 instantaneously causes the following:
 - electrical power to the motors is *disabled* and **all movement ceases**
 - air is purged from the pneumatic system
 - the Y-axis pressure roller drops down
3. Release the Main Emergency Stop button by slightly twisting the red plastic ring beneath the top of the button, as shown in [Figure 3](#).



Figure 3. **Releasing the Main Emergency Stop Button**

The Main Emergency Stop button pops up and is now restored to the READY position

4. Press the Reset button located above the Piston Control switch at the rear of the printer:



Air pressure returns to the pneumatic system, enabling activation of the pressure shaft again.

5. Press the piston control *up* arrow  to close (and return memory to) the pressure shaft.
6. Repeat [Step 1](#) through [Step 5](#) to check the Main Emergency Stop button on the *left* side of the printer.

Head Carriage Emergency Stop

The head carriage (located at the front of the printer) is protected on all sides by a specially designed cover, fitted to which is metal frame containing an important safety feature - the Head Carriage Emergency Stop Mechanism - which is shown in [Figure 4](#) below.

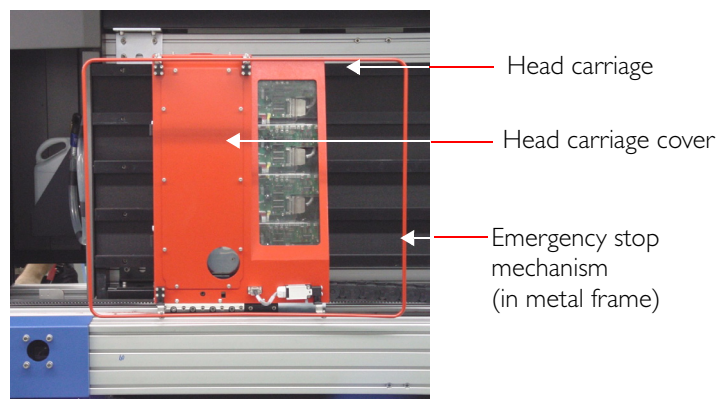


Figure 4. Head Carriage Emergency Stop Mechanism

While the head carriage moves rapidly backwards and forwards along the length of the printer, any contact with the metal frame (and consequently the microswitch stop mechanism), causes all motion to stop *immediately*.

The Head Carriage Emergency Stop Mechanism is fully operational in both directions - whether the carriage is moving from left to right, or *vice versa* - which prevents injury to the operator caused by accidental contact with moving parts. This eliminates the risk of any possible injury to the operator and prevents obstruction caused by hands or fingers, clothing, or other foreign objects.

CAUTION



Whenever performing this checking procedure, it is important to make sure that the head carriage is returned to the *Home* position (as described in [Step 7](#)) so that when resumed, printing commences from the correct position.

note



In addition to providing protection to the print heads and helping to keep the head carriage and printing table clean during spraying, the cover also enables visual inspection of the heads through a perspex panel at the front, and allows easy access for changing ink filters etc. through a door at the side.

Checking the Head Carriage Emergency Stop

1. Make sure the Grandjet Classic printer is loaded with substrate and that the head carriage is in the *home* position.
2. From the Grandjet Classic main screen, select any file (for testing purposes) and place it **first** in the print queue.
3. In the Status area, select **2 Pass** mode and **Slow** speed.
4. Click on the **Print** icon. 

Printing commences and the head carriage starts its forward and backward movement along the length of the printing table.

5. After printing a few passes, use one hand to carefully touch the metal frame fitted to the head carriage, as shown in [Figure 5](#).

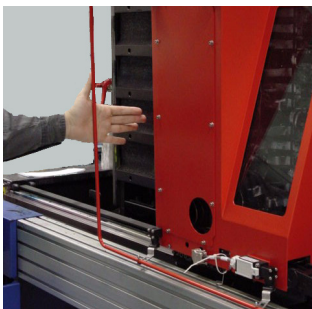


Figure 5. **Activating the Head Carriage Emergency Stop**

*This will activate the magnetic microswitch stop mechanism and cause **movement of the head carriage to cease instantly!***

Check that performing this Step caused the head carriage movement to stop immediately.

6. From the Grandjet Classic main screen, click on the Maintenance icon. 

The Maintenance dialog box opens:

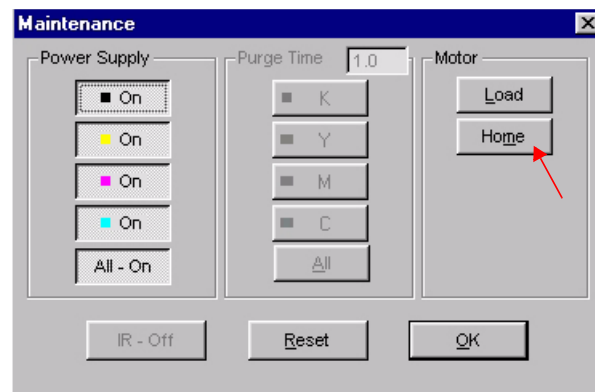


Figure 6. **Maintenance Dialog Box**

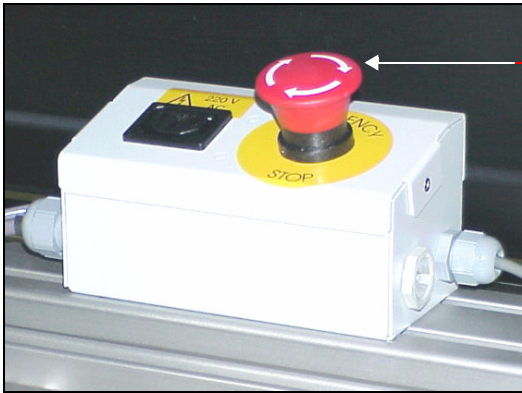
7. Under the *Motor* column (on the right), click on the **Home** button (see [Figure 6](#)).

The head carriage moves to the left, and stops when it reaches the home position (in front of the cleaning station), where it remains stationary.

When resumed, printing will now commence from the correct point.

Piston Emergency Stop Buttons

The system has three Piston Emergency Stop buttons which are clearly marked and located at the rear of the Grandjet Classic printer, fitted to the main frame (see [Figure 7](#) and [Figure 8](#)).



Piston
Emergency
Stop
Button

Figure 7. Piston Emergency Stop Button

The Piston Emergency Stop buttons operate manually and may be pressed in the event of the operator's hand or fingers inadvertently being trapped between the piston-operated pressure shaft and the rubber roller.

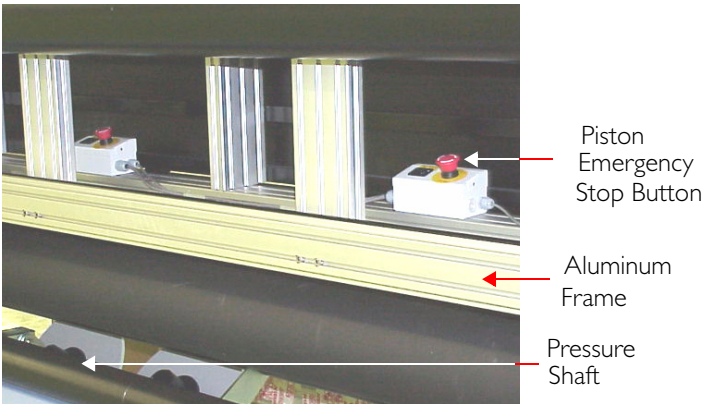


Figure 8. Piston Emergency Stop Button - Printer Rear View

When any Piston Emergency Stop button is activated, electrical power to all motors is disconnected and air is purged from the pneumatic system.

The pressure shaft at the rear of the printer drops down instantaneously and all movement ceases.

DANGER

A yellow square warning icon with a black border. Inside, a black silhouette shows a hand being caught between two circular shapes, representing a piston and a roller.

The pistons exert considerable pressure, therefore extreme care must be taken to avoid injury to hands or fingers.

Only ONE person may operate the piston!

Checking the Piston Emergency Stop Buttons

1. Standing at the rear of the printer, and with the Y-axis pressure roller activated, press down the first Piston Emergency Stop button (starting on either the *left* or *right* side).



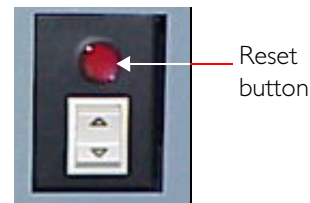
2. Check that the reaction to Step 1 instantaneously causes the following:
 - electrical power to the motors is *disabled* and ***all movement ceases***
 - air is purged from the pneumatic system
 - the Y-axis pressure roller drops down

3. Release the Piston Emergency Stop button by twisting the red button in a *clockwise* direction (as shown by the arrows marked on the top of the button).



*The Piston Emergency Stop button pops up and is now restored to its original position and is **READY** for activation in the event of an emergency.*

4. Press the Reset button located above the Piston Control switch at the rear of the printer:



Air pressure returns to the pneumatic system, enabling activation of the pressure shaft again.

5. Press the piston control *up* arrow  to close (and return memory to) the pressure shaft.
6. Repeat [Step 1](#) through [Step 5](#) to check each of the other two Piston Emergency Stop button/s at the rear of the printer.

CAUTION



Whenever performing this checking procedure, it is important to make sure that all Piston Emergency Stop Buttons are enabled (refer to [Step 3](#)) and *ready for immediate use in the event of an emergency*.

This will eliminate the risk of possible injury to the operator and prevent any obstruction caused by hands, fingers, clothing, or other foreign objects.

Mains Power Emergency Stop

In addition to the safety devices fitted to the Grandjet Classic printer, it is important to perform a daily check of the mains power Emergency Stop button to make sure that this is fully operational.



It is recommended that this procedure is performed during system start-up, *AFTER* turning on the mains power switch and circuit breaker on the electrical control panel (located at the rear of the printer on the *left* side), but *BEFORE* turning on any other circuit breakers .

Power to the computer should also be OFF .

CAUTION



Access to the wall-mounted mains PDU must be kept clear at all times!



Checking the Mains Power Emergency Stop

1. Check that the mains circuit breaker on the wall-mounted PDU is in the ON (*up*) position and that the PDU Emergency Stop button is released (ready).

2. Standing at the electrical control cabinet at the *rear* of the printer (from the rear, this is located on the *left* side - see [Figure 9](#)), make sure that all circuit breakers on the PDU circuit breaker panel are in the OFF (*down*) position.

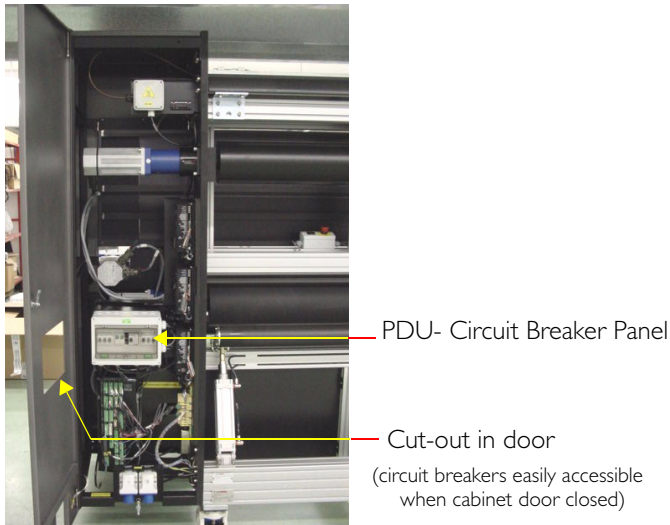


Figure 9. **Electrical Control Cabinet**

3. Check that both pilot lights are **illuminated** (as shown in [Figure 10](#)), indicating voltage coming to the PDU.

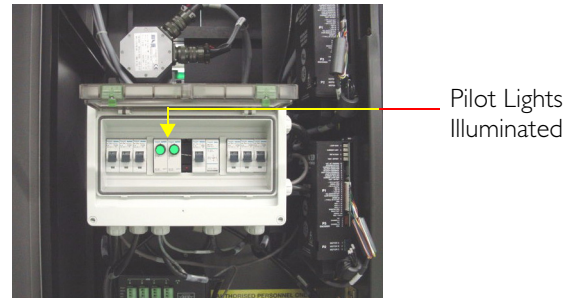


Figure 10. **Circuit Breaker Panel**

4. Standing at the wall-mounted mains PDU, press the Emergency Stop button (see [Figure 11](#)).

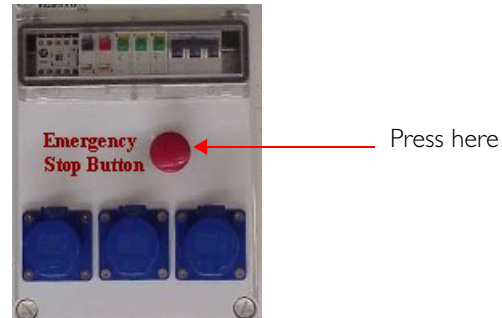


Figure 11. **Wall-mounted Mains PDU**

*This instantly causes **complete disconnection** of the system from the mains power supply.*

5. Return to the electrical control panel at the rear of the printer and check that the two pilot lights on the circuit breaker panel are **not illuminated**, indicating that there is no voltage to the single phase.

6. Release the Emergency Stop button on the wall-mounted PDU to return it to the *ready* state.

CAUTION



Whenever performing this checking procedure, it is important to make sure that the Mains Power Emergency Stop button is returned to the proper state (Step 6) so that it is ready for immediate use in the event of fire or any other emergency.

Access to the wall-mounted PDU must be kept clear at all times!

Checking the Pneumatic System

In addition to the normal checks performed before printing to ensure that the air lines are patent and functioning properly, it is recommended that the pneumatic system is checked on a daily basis. This will help to maintain efficient operation of the Grandjet Classic printer.

Besides performing a visual check of air pressures, the air line water and moisture traps should be inspected and drained if necessary, as described below.



Checking the pneumatic system is performed after maximum pressure has been reached or, if after complete shutdown, when maximum pressure has been reached again.



Checking the Pneumatic System

1. Ensure that Mains power to the compressor (or central compressed air system) is ON, and that the unit is operating satisfactorily - see note below.

note



The operator should acquaint himself with the service procedures laid down by the compressor manufacturer and ensure that these are carried out as specified.

2. Standing in front of the pneumatic control panel, verify that the pressure readings on the air pressure gauges are correct, in accordance with those shown in [Table 1](#).

Table 1. Pneumatic System - Air Pressure Settings

Air Pressure Gauge	Setting
Main ink tanks	0.2 BAR
Main gauge	2.5 BAR

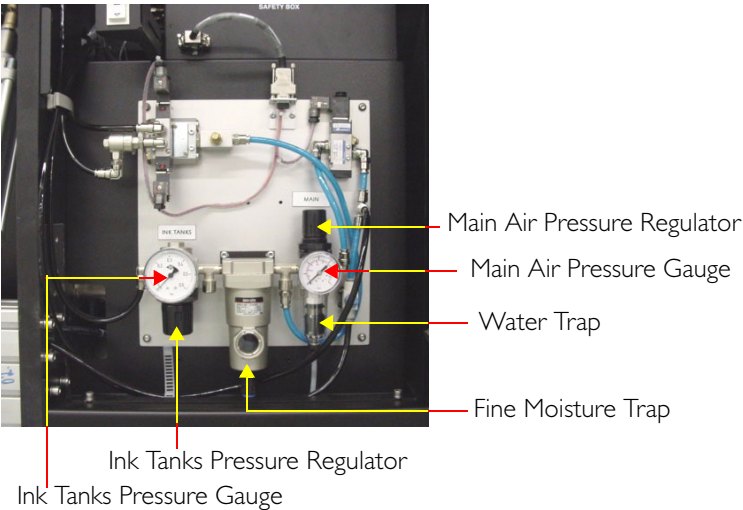


Figure 12. Air Pressure Gauges

3. If necessary, adjust the appropriate pressure regulator (*ink tanks*, or *main*), by turning it in a *clockwise* or *counter-clockwise* direction, until the correct pressure registers on the corresponding gauge - see [Table 1](#).



To gain access to the pressure regulators you will need to open the pneumatic cabinet door.

When adjusting a pressure regulator, the black regulator cap must be pulled upwards or downwards (see below) before turning it in a clockwise or counter-clockwise direction, as appropriate.

- Main regulator** - pull cap *upwards*
Main ink tanks - pull cap *downwards*
Push the cap down (or up) again when adjustment is finished.

4. Inspect all air hoses for leaks.
5. Check the water trap beneath the main pressure regulator (see [Figure 12](#)) and if necessary, press the valve at the base in an upward direction until all the water has drained. Release the valve and make sure the trap is closed.
6. Check the fine moisture trap (see [Figure 12](#)) and if necessary release any excess moisture by turning the knurled nut at the base of the trap in a *clockwise* direction until all the moisture has drained. Then turn the nut *counter-clockwise* until the trap is securely closed.
7. Close the pneumatic cabinet door.

Checking the Air Dryer

In accordance with site preparation specifications provided by the Scitex Vision Ltd. FSE, the compressor supplying air to the Scitex Grandjet system will have been fitted with the appropriate air dryer. It is recommended that this is checked daily to ensure that is coping adequately.

Checking the Air Dryer

1. Check that the air dryer fitted to the compressor is working properly and that air in the air lines is dry and free of contaminants, such as oil or rust.
2. If moisture or excessive humidity is present, drain the excess liquid from the air line water trap (see [Figure 12](#) on the previous page) by pressing the valve at its base in an upward direction, until all the water has drained.

Release the valve and make sure the trap is closed.
3. Check if the trap needs cleaning, repair, or replacement and proceed accordingly.
4. In the event that the air dryer has become damaged or is no longer working efficiently, replace it with a new dryer of the appropriate type.

Refilling the Main Ink Tanks

It is recommended to refill the main ink tanks every day so that the Grandjet Classic printer does not run out of ink during printing. This is especially important for systems handling heavy print runs. The procedure may be performed while printing is in progress.

Refilling the Main Ink Tanks



When performing this procedure, use of a funnel is recommended.

1. Close all air pressure hoses connected to the main ink tanks you wish to refill. (Refilling requirements are established by visual inspection).
2. Release the excess air from the first main tank, by turning the blue tap located on the side.
3. Unscrew the black cap and tubing from the tank.
4. With the main tank standing firmly, carefully refill it with ink of the *correct* color (as marked on the outside of the tank) making sure you avoid any splashing - see [Figure 13](#).



Figure 13.Filling the Main Ink Tank

5. When the ink tank contains no more than 4 liters, stop filling; replace the screw cap on the ink bottle and tighten firmly.

CAUTION



It is recommended not to fill a main tank with more than 4 liters of ink, and that each tank should contain no less than 2 liters.

Screw the black cap (and its corresponding tubing) into place on the main ink tank, and tighten firmly as shown in [Figure 14](#).



Figure 14. Tightening the Main Ink Tank Cap

6. Repeat [Step 1](#) through [Step 5](#) for any other main ink tanks that require refilling.
7. Check that all caps are tightly closed, then open the corresponding air pressure tap on each of the main ink tanks.
8. Check the ink tank air pressure gauge reading (see [Figure 15](#)) on the air pressure control board (situated behind the computer, at the base of the printer), and if necessary adjust to 0.2 BAR.

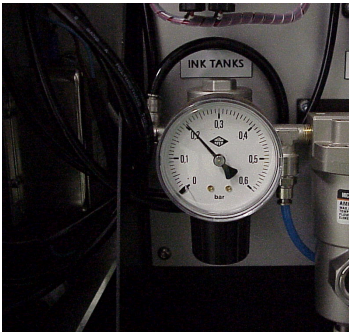


Figure 15. Air Pressure Gauge - Main Tanks

Table 2. Main Ink Tanks - Required Air Pressure

Air Valve Position	System Component to which Air Pressure is Controlled	Setting
Left	Main ink tanks	0.2 BAR

Cleaning the Print Heads - Basic Method



Before commencing the **Print Head Cleaning** procedure, check that the plastic spray bottle (supplied with the system) is filled with clean solvent and is readily at hand.

Cleaning the Print Heads with Solvent

1. With the head carriage in the *parked* position (in front of the cleaning station), carefully spray the print heads with clean solvent until they are all thoroughly wet - see [Figure 16](#).



Figure 16. **Spraying the Print Heads with Solvent**

The solvent dissolves dried ink, loosening any clogged particles.

2. Remove the resulting residue from each print head in turn, by holding the vacuum cleaner rubber pipe firmly against the print head while pressing the vacuum button (see [Figure 17](#)).



Figure 17. **Removing Ink Residue with Vacuum Cleaner**

WARNING



Take special care to avoid contact or scratching the surface of the print heads with the vacuum cleaner pipe.

Surplus ink, dried particles and debris collect in a waste ink bath beneath the cleaning station, from where they drain into the waste ink tank (shown in [Figure 18](#)) located in a cabinet at the rear of the printer.

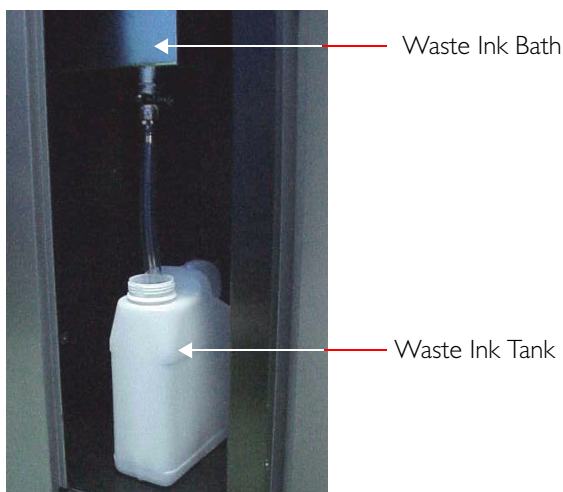
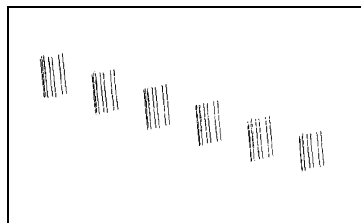


Figure 18. **Waste Ink Tank and Cabinet**

3. With *black* ink spraying, steadily hold a sheet of white, A4-sized paper at a short distance in front of the print heads.

Move the paper slightly in a horizontal direction (to the *left* or *right*) for a short distance (approx 1cm).

As the ink sprays onto the paper, six blocks of thin vertical lines appear, as shown in this example:



Each block of printed lines corresponds to the print head arrangement on the head carriage - see [Figure 19](#).

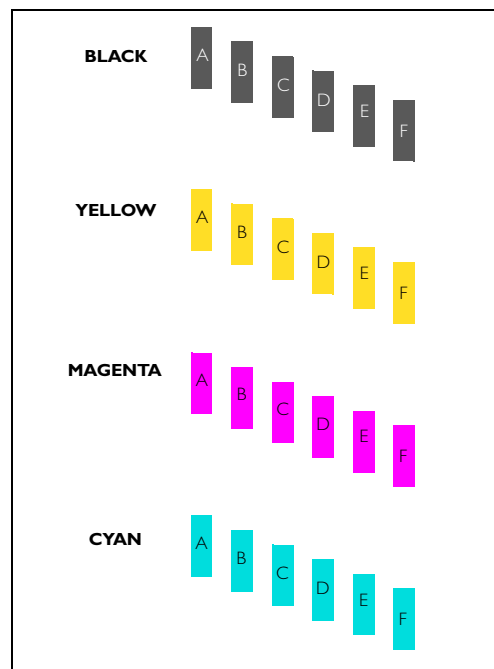


Figure 19. **Print Head Arrangement on Head Carriage**

4. Inspect each of the six printed blocks and verify that all lines are sprayed evenly, and that no portions of a line are missing.
5. Repeat [Step 3](#) and [Step 4](#) for each of the remaining colors: *yellow*, *magenta*, and *cyan*.

If there are no imperfections in any of the printed blocks, the head cleaning procedure is now complete.

However, if any nozzles still appear to be clogged, repeat the procedure (on the blocked print heads) to remove any dried ink particles.

6. Test the print heads again to ensure that cleaning has been performed satisfactorily.

note



This procedure may be performed as and when required during printing, and repeated as often as necessary to prevent ink build-up in the print head nozzles and maintain patency.

reference



In the event that print heads still appear to be blocked after repeating the above procedure, it will be necessary to perform more advanced cleaning.

Refer to the step-by-step instructions for [Cleaning the Print Heads - Advanced Method](#) on page 3-6.

Chapter 3

Weekly Care



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Checking the Printer for Levelness	3-2
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Emptying the Waste Ink Tank	3-12
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Checking the Pressure Shafts and Pistons	3-14

Checking the Printer for Levelness

It is recommended that the Grandjet Classic printer is checked every week to make sure that it is standing perfectly level. This is important since even the slightest shift or floor movement could impair printing alignment.

For this purpose, two spirit levels are built into the printer main frame - one on each of the *left* and *right* sides.

Checking the Printer for Levelness

1. Standing at the rear of the printer, inspect the spirit level located on the *left* side of the main frame (near the electrical control panel) - see [Figure 20](#).

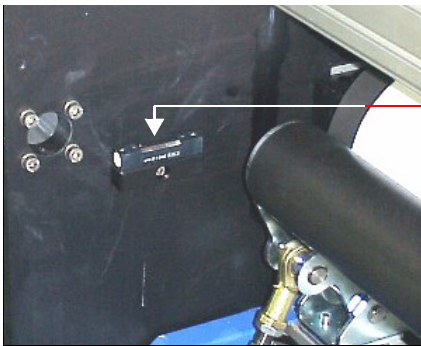
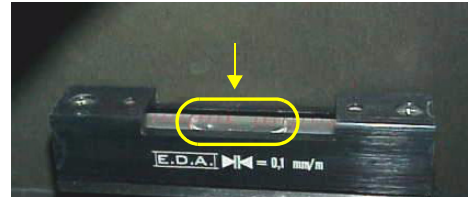


Figure 20. Spirit Level on Left Side

2. Check that the air bubble is positioned precisely in the center of the level, as shown below:



3. Repeat [Step 1](#) & [Step 2](#) to inspect the spirit level on the *right* side of the printer main frame - see [Figure 21](#).

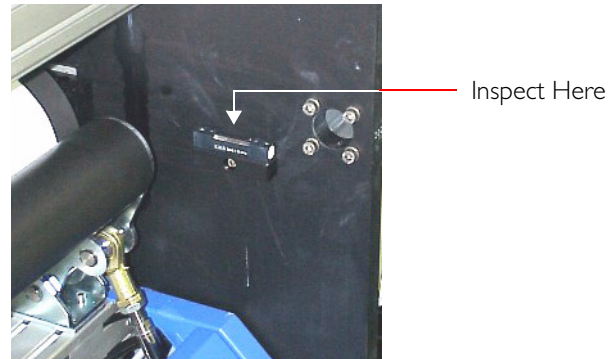


Figure 21. Spirit Level on Right Side

4. If both levels are reading correctly, the leveling check is complete. If not, **contact your Scitex Vision Ltd. FSE and await further instructions.**

Greasing the Linear Bar

The linear bar at the base of the Grandjet Classic printer head carriage requires a light application of grease every week. This is recommended to ensure smooth operation and maintenance of moving system components.



Before commencing this procedure, make sure that a No 5 Allen key is readily at hand and that the grease gun (supplied with the system) is filled with sufficient grease of the recommended type.

WARNING



Solvent and solvent-based ink used with the Grandjet Classic printer have *flammable* and *irritant* properties.^a

For full details, refer to the Material Safety Data Sheets provided in the *Scitex Vision Grandjet Classic User Manual* - see the **Appendix.**

a. Chemicals hazard information and packaging for supply (CHIP) classification

CAUTION



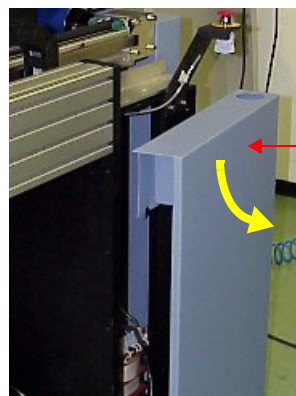
When handling inks and solvent, always adhere to the recommended precautions - see [Handling Ink and Solvent](#) on page I-8.

Use only inks and solvent approved by Scitex Vision Ltd.



Greasing the Linear Bar

1. Press either of the Main Emergency Stop buttons.
The Grandjet Classic printer is now in safe mode.
2. Apply a small quantity of solvent to a soft cloth and working along the full length of the printing table, wipe the head carriage linear profile clean, carefully removing any dried ink splashes.
3. Working from the *front* of the printer, and using a No 5 Allen key, unscrew the four screws and lift and remove the panel from the *right* side of the printer frame - refer to [Figure 22](#).



Front panel

Figure 22. Removing the Front Panel - Right Side

You will now have easy access to the two grease nipples on the head carriage linear bar.

4. Carefully pull the head carriage manually towards the *right* (see [Figure 23](#)) until it reaches the furthestmost right position on the printer frame.



When performing this step, use both hands - one holding the base of the head carriage and the other holding the cable track, as shown in [Figure 23](#).



Figure 23. **Moving the Head Carriage Manually**

5. Using the grease gun, apply a small quantity of grease to each of the two nipples at the front of the head carriage as shown in [Figure 24](#) and [Figure 25](#).

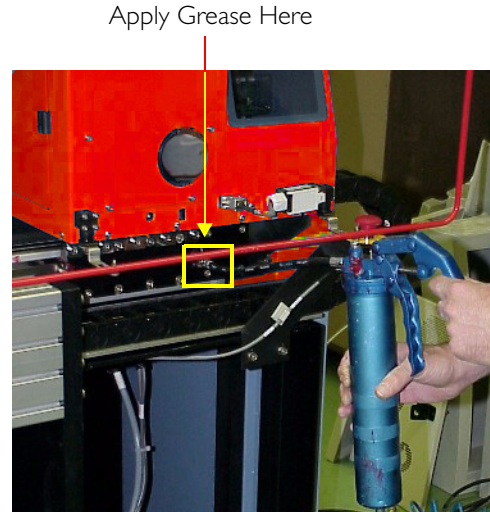


Figure 24. **Applying Grease to the Front Nipple**

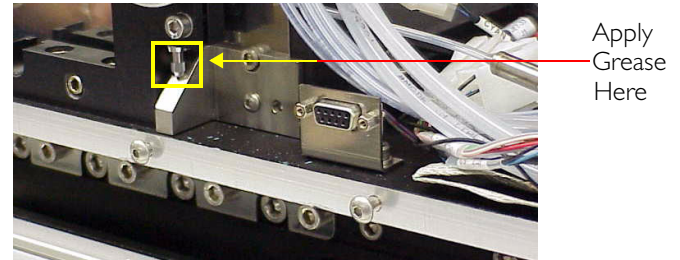


Figure 25. **Second Grease Nipple at Front**

6. Carefully pull the head carriage back to the left, until it reaches the *home* position.

7. Apply a small quantity of grease to the nipple at the left side of the carriage - see [Figure 26](#).

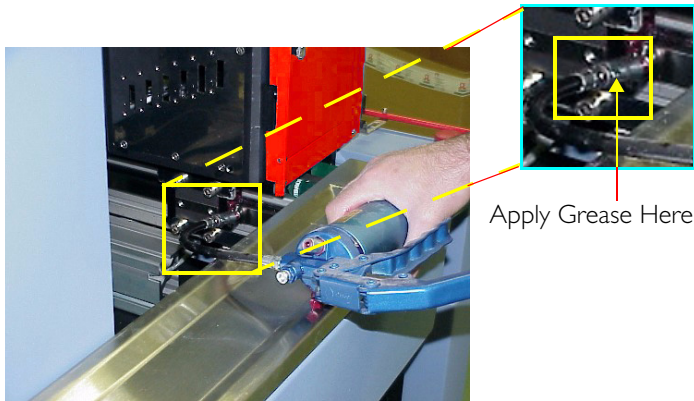


Figure 26. Grease Nipple at the Side of the Head Carriage

8. Replace the front right panel (removed in [Step 3](#)) and screw firmly into position.
9. When ready to start printing, release the Main Emergency Stop button by slightly twisting the plastic ring beneath the top of the button, until it pops up and is now in the *ready* position - see [Figure 27](#).



Figure 27. Releasing the Main Emergency Stop Button

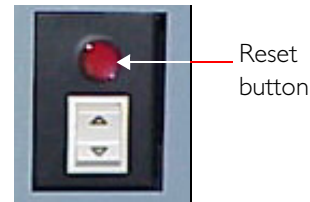
The Main Emergency Stop button pops up and is now restored to the READY position.

CAUTION



It is important to make sure that the Emergency Stop button has been restored to the **READY** position so that it is available for immediate use in the event of an emergency.

10. Press the Reset button located above the Piston Control switch at the rear of the printer:



Air pressure returns to the pneumatic system, enabling activation of the pressure shaft again.

11. Press the piston control *up* arrow  to close (and return memory to) the pressure shaft.

Cleaning the Print Heads - Advanced Method

It is recommended that advanced print head cleaning be performed once per week, however the frequency with which this will be required will naturally depend upon the printer work load. Being the most thorough of the Grandjet Classic printer printer head cleaning procedures, this involves the cleaning of *all* print heads of *each* color group. ***It should only be carried out by operators who have been trained by a Scitex Vision Ltd. FSE.***

Before commencing, check that the following equipment is readily at hand:

- Plastic spray bottle* filled with solvent
- Additional solvent
- Glass syringe 50cc*
- Silicone tubing (to attach to syringe)
- Spare ink filter
- Black plastic stopper
- White plastic nozzle caps

*supplied with the system

Cleaning the Print Heads - Advanced Method

1. Make sure the head carriage is in the *parked* position, in front of the cleaning station.
2. Using the plastic spray bottle filled with *clean* solvent, thoroughly wet each row of print heads (*black, yellow, cyan, magenta, and cyan*).



Figure 28. **Spraying the Print Heads with Solvent**

- From the Grandjet Classic main screen, click on the Maintenance icon.



The Maintenance dialog box opens - see [Figure 29](#).

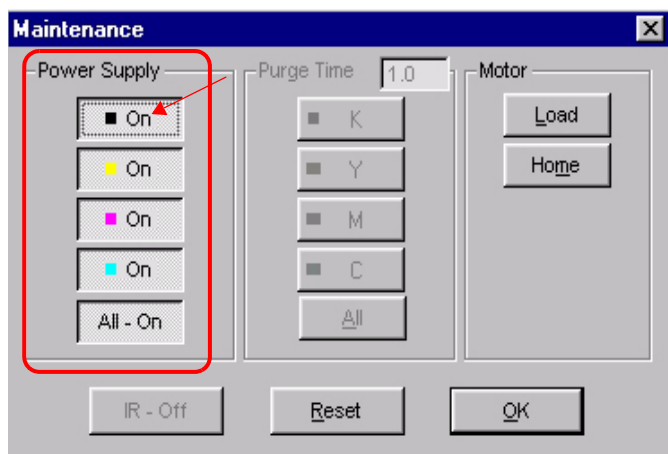


Figure 29. Maintenance Dialog Box - 35V Power ON

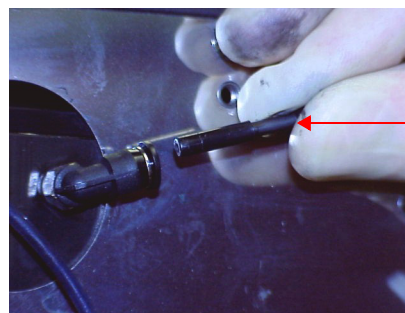
- Under the *Power Supply* controls, turn **OFF** the 35V power supply to the heads that use *black ink* by clicking the black button at the top (which is currently in the *On* status as shown in [Figure 29](#)),

The 35V power supply status (for heads using black ink) changes to **Off**.



Place a large piece of absorbent disposable paper at the base of the head carriage to absorb any surplus ink drops when disconnecting ink tubes.

- Disconnect the air tube from the first secondary ink tank (*black ink*) and in place of this, insert the plastic stopper provided (to create a vacuum inside the secondary tank) - see [Figure 30](#).



Plastic stopper

Figure 30. Inserting the Stopper

- Working from the *top* of the head carriage and starting with the *innermost* print head (*black* [labelled **F** in [Figure 36](#) on page 3-11]), proceed as follows:

Carefully unscrew (in a *counter-clockwise* direction) and disconnect the ink pipe plastic coupler from the first secondary ink tank as shown in [Figure 31](#).

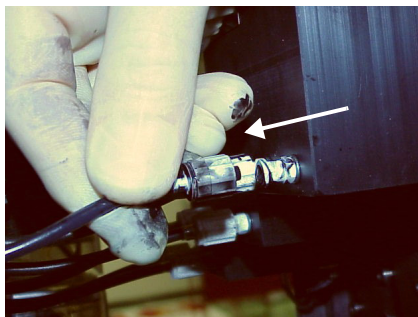


Figure 31. **Disconnecting the Ink Pipe from the Secondary Tank**

7. Screw a white plastic cap onto the nipple and gently turn in a *clockwise* direction for half a turn to seal it - see [Figure 32](#).

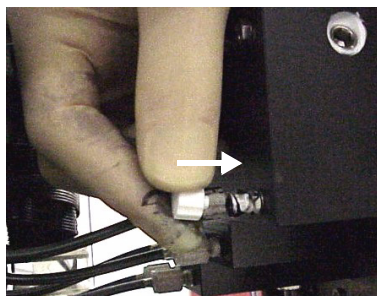


Figure 32. **Fitting Plastic Cap**



Plastic cap

8. Attach a spare ink filter to two lengths of silicone tubing, making sure that the connections are screwed firmly into position on the upper and lower portions of the filter (as illustrated in [Figure 34](#)).



It is advisable to keep a spare ink filter and two lengths of silicone tubing (one short; one long) for dedicated use in this procedure.

They should be connected so that the flow of solvent is *always in the same direction*, to prevent clogging. For this reason it is helpful to mark a directional arrow on the filter connections with a felt-tipped pen (see [Figure 34](#)).

Use of a separate piece of silicone tubing is recommended when re-filling the syringe with solvent.

9. Screw the end of the tubing attached below the ink filter onto the ink pipe plastic coupler (disconnected from the print head in [Step 6](#)), tightening the connection firmly - see [Figure 33](#).

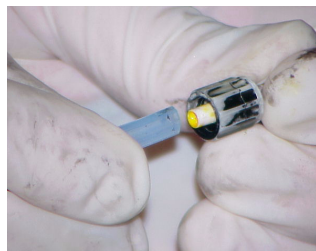


Figure 33. **Attaching Silicon Tubing**

10. Carefully fill the glass syringe (provided) with 50cc *clean* solvent and attach the nozzle to the end of the silicone tubing fitted to the top of the ink filter.

11. Using steady pressure on the plunger, slowly inject the solvent into the print head, until the syringe is completely empty - see [Figure 34](#).

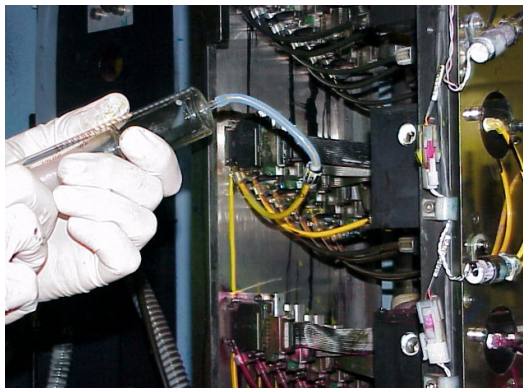


Figure 34. **Flushing the Print Head with Solvent**

Note: [Figure 34](#) does not show the filter attached to the syringe.

Any dried or clogged ink residue will be dissolved.



For clarity and demonstration purposes, the print head being injected with solvent in [Figure 34](#), corresponds to the head labelled **A (and not **F**) in [Figure 36](#).**

12. Disconnect the silicone tubing from the ink pipe plastic coupler.
13. Remove the white plastic cap from the secondary tank nipple and replace the plastic coupler (removed in [Step 6](#)), taking care to screw gently in place in a *clockwise* direction for half a turn.

14. Remove the black plastic stopper from the air tube (refer to [Step 5](#)) and re-connect the tube to the first secondary ink tank.
15. Disconnect the syringe from the short length of silicone tubing and carefully refill it with solvent (using separate tubing as previously recommended).
16. Working *outwards*, repeat [Step 6](#), [Step 7](#), and [Step 9](#) through [Step 15](#), to inject each of the remaining *black* print heads in the row with solvent. (Referring to [Figure 36](#), the sequence would be as follows: *E*; *D*; *C*; *B*; and finally *A*).
17. Using the plastic spray bottle filled with *clean* solvent, thoroughly wet each row of print heads in all color groups (see [Step 2](#)).
18. From the Maintenance dialog box, switch ON the 35V Power to the print heads that use *black* ink (turned Off in [Step 4](#)) by clicking the black button, and then clicking on **Reset**.
19. Remove the residue from each *black* print head in turn, by holding the vacuum cleaner rubber pipe firmly against the print head (see [Figure 35](#)) while pressing the vacuum button. Keep vacuuming until you are able to see the ink coming through each head and tube.



Figure 35. Vacuuming the Heads

WARNING



Take special care to avoid contact or scratching the surface of the print heads with the vacuum cleaner pipe.

20. Moving to the next row of heads (*yellow*), repeat [Step 4](#) to turn OFF 35V power to these heads and again working *outwards* (in the order described), repeat [Step 5](#) through [Step 7](#), then [Step 9](#) through [Step 20](#), until all the heads in the row have been injected with solvent.

21. Working systematically *downwards* and *outwards*, repeat the solvent-injecting procedure for each of the other color groups of print heads - *magenta* and *cyan*, respectively - until all the print heads in all rows have been injected with solvent.

CAUTION



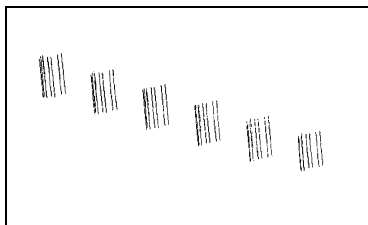
When each color is complete, remember to spray all the print heads to keep them wet.



Make sure that all print heads in all color groups have been thoroughly cleaned and all residue removed before proceeding to the next step, where you will test the head nozzles for patency.

22. With *black* ink spraying, steadily hold a sheet of white, A4-sized paper at a short distance in front of the print heads.
- Move the paper slightly in a horizontal direction (to left or right) for a short distance (approx 1cm).

As the ink sprays onto the paper, six blocks of thin vertical lines appear, as shown in this example:



Each block of printed lines corresponds to the print head arrangement on the head carriage - see [Figure 36](#).

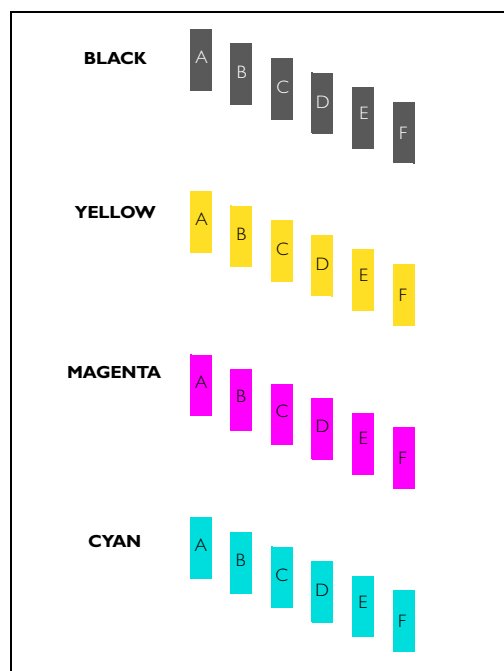


Figure 36. Print Head Arrangement on Head Carriage

23. Inspect each of the six printed blocks and verify that all lines are sprayed evenly, and that no portions of a line are missing.

24. Repeat [Step 22](#) and [Step 23](#) for all groups of print heads and verify that all lines are sprayed evenly, and no portions of a line are missing.

If any sign of clogging is still apparent, spray the blocked print heads with solvent and vacuum again as previously described.

25. When all print heads are spraying heads correctly with no signs of clogging, click **OK** to close the Maintenance dialog box.

If any sign of clogging still remains, clean the block heads again by repeating the above procedure and injecting them again with solvent.



note

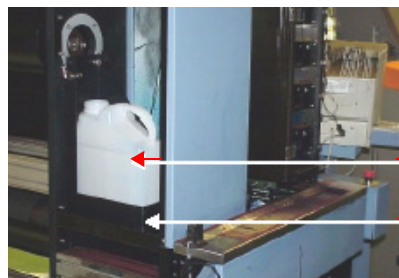
In the event that clogging persists, it will necessary to replace the faulty print head/s.

Refer to the step-by-step instructions for [Replacing a Print Head](#) on page 5-2.

Emptying the Waste Ink Tank

When ink particles and residue are removed from the print heads with the vacuum pipe, the waste material is sucked into a special waste ink tank. This receptacle is fitted to the base of the Grandjet Classic printer main frame and held in place within a metal housing, as shown in [Figure 37](#).

It is recommended that the waste ink tank be emptied every week to eliminate the risk of the tank overflowing and also to prevent the build-up of excess dried ink thereby ensuring efficient print head cleaning. During heavy print runs, this procedure may be required even more frequently.



Waste ink tank
Metal housing

Figure 37. **Waste Ink Tank**

The tank has a fume exhaust (a flexible pipe connected to the overhead hood) and is also connected to the pneumatic system. A flexible plastic pipe attached to the vacuum cleaner leads into the neck of the waste tank. Both this and the exhaust pipe are held firmly in place, fitting through holes in a black plastic cap screwed to the tank - see [Figure 38](#).

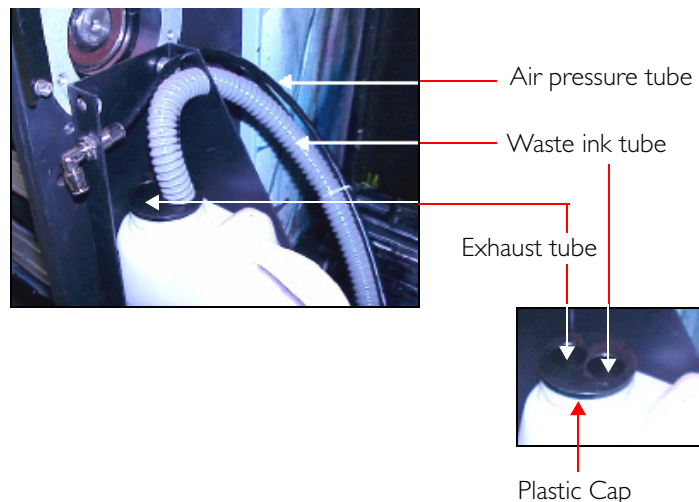


Figure 38. **Waste Ink Tank Connections**



While emptying the waste tank, it is recommended to place some absorbent paper beneath the tank, to absorb any surplus leakage and help keep the housing clean.



Emptying the Waste Ink Tank

1. Unscrew the black plastic cap on the top of the waste tank and carefully remove the tank from its metal housing - see [Figure 38 on page 3-12](#).
2. Remove all ink waste and residue from the bottom of the waste ink tank by carefully pouring it into the waste container allocated for this purpose, as shown in [Figure 39](#).



Figure 39. Emptying the Waste Ink Tank



To eliminate the risk of spilling ink, always use a funnel.

3. Clean the interior of the waste ink tank by carefully swilling it with solvent, and then pouring this also into the waste container.

CAUTION



Dispose of waste ink in accordance with individual country safety requirements and local authority regulations.

4. Replace the waste ink tank in its housing and carefully reinsert the plastic tube into the neck of the tank, making sure it is positioned securely.
5. Screw the black plastic cap onto the neck of the waste ink tank, making sure that the flexible pipes are fixed securely.

Checking the UPS

For systems using a UPS, it is recommended that weekly checks are conducted to ensure reliability, as described below.

Checking the UPS

1. Switch OFF mains power to the UPS.
2. With the printer running, ensure that the UPS is able to maintain power for at least 10 minutes (or for as long as applicable in accordance with the type of UPS).
3. Restore the mains power to the UPS.

note



In the event that the UPS is unable to maintain power for the prescribed period, refer to the manual supplied with the UPS.

Checking the Pressure Shafts and Pistons

It is recommended that the Grandjet Classic printer pressure shafts and pistons are inspected weekly, to check that they are correctly adjusted and that movement is smooth and properly synchronized. This will ensure that pressure is applied evenly on the media for the entire length of the Y-axis pressure roller and eliminate possible media-loading difficulties.

The system is fitted with four Y-axis pressure shaft pistons. As described below, a simple adjustment procedure is required to compensate for irregularities which may occur in any one or more of these components.

DANGER



The pistons exert considerable pressure, therefore extreme care must be taken to avoid injury to hands or fingers. **Only ONE person** may operate the pistons!

When activating the pistons, always move away from the axes.

💧 Checking the Pressure Shafts and Adjusting Pistons

1. Make sure that the Grandjet Classic printer is loaded with substrate.
2. Standing at the rear of the printer, press the *up* arrow  on the piston control switch (located above the pneumatic control panel) - see [Figure 40](#).

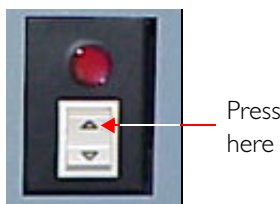


Figure 40. **Y-Axis Piston Control Button - ON**

The pistons are immediately activated, causing the pressure shaft to rise slowly and exert pressure on the Y-axis.

3. While the pressure shaft is moving, check to see that movement is smooth and that it is rising evenly along its full length. Also make sure that the pistons are all operating at the same speed and that all parts of the roller reach the Y-axis simultaneously.

If there are no problems, perform [Step 4](#) to complete the checking procedure.

If there are any irregularities, note which piston (or pistons) requires adjustment, then proceed to [Step 4](#) and continue with [Step 5](#) onwards.



Piston adjustment is performed using either (or both) of the *upper* or *lower* adjustment screws located on the side of the piston and connected to the pneumatic tubing, as shown in [Figure 41](#).

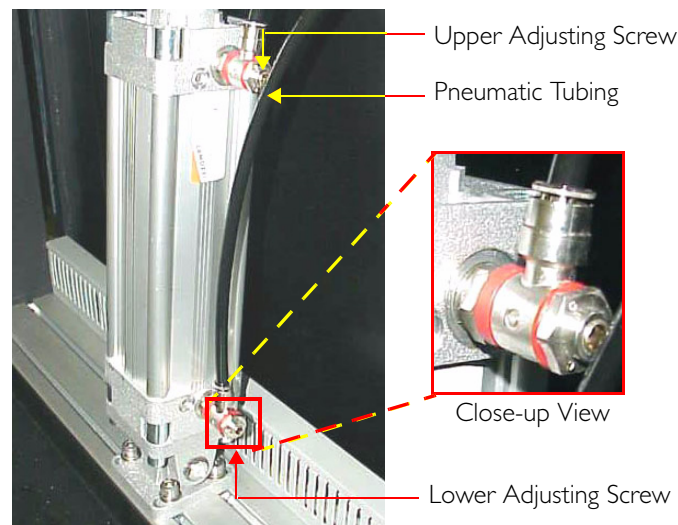


Figure 41. **Piston Adjustment Screws**

4. De-activate the pistons by pressing the *down* arrow  on the piston control switch - see [Figure 42](#).



Figure 42. **Y-Axis Piston Control Button - OFF**

The Y-axis pressure roller immediately disengages and falls slowly to return to its original position.

5. Working on the Y-axis piston (or pistons) requiring adjustment, use a small flat screwdriver (as shown in [Figure 43](#)) to turn the relevant adjusting screw (upper or lower) in the appropriate direction, and for the required amount of adjustment, as follows:

- **Upper** screw adjustment - effects piston *downward* movement
- **Lower** screw adjustment - effects piston *upward* movement

Screw Turning Direction	Action	Effect
Clockwise	Closes air release valve	Increases resistance <i>Slows</i> piston action
Counter-Clockwise	Opens air release valve	Decreases resistance <i>Speeds up</i> piston action

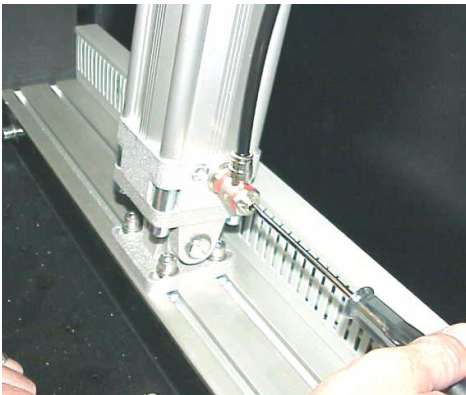


Figure 43. **Turning the Adjusting Screw**

CAUTION

When adjusting pistons, take extreme care to stand away from moving axes before testing the results!

6. Repeat [Step 2](#) and [Step 3](#) to check the pressure roller movement again.
7. If necessary, repeat [Step 4](#) and [Step 5](#) then check the movement again, making any additional adjustments necessary as previously described.
8. When the pressure roller adjustment has been completed satisfactorily, repeat [Step 4](#) to turn OFF the piston control button and deactivate the pistons.

The Y-axis pressure roller immediately disengages and falls slowly to return to its original position.

The piston checking procedure is now complete.

Chapter 4

3-Monthly Care



Contents at a glance ...

Replacing the Ink Filters 4-2

Replacing the Ink Filters

It is recommended that all ink filters located between the secondary ink tanks and the main ink tank tubes, be replaced every three months. However, this procedure may be required more frequently, should the ink flow appear to be impeded.

When replacing an ink filter, it is important that it is positioned correctly in order to maintain ink flow in the proper direction, as marked on the side of the filter and shown in [Figure 44](#) below.

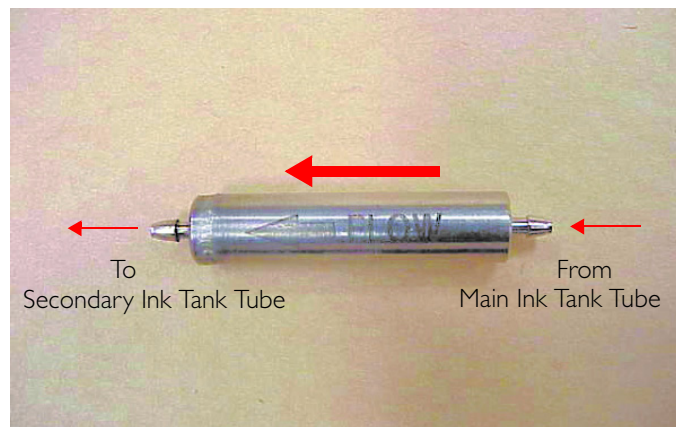


Figure 44. Ink Filter Showing Direction of Ink Flow

Replacing the Ink Filters

1. Press either of the two Main Emergency Stop buttons.

The Grandjet Classic printer is now in safe mode.

2. Close the air pressure valves on each of the four main ink tanks.
3. With the head carriage parked in the *home* position, unscrew and remove the left panel on the *front* of the head carriage cover as shown in [Figure 45](#).

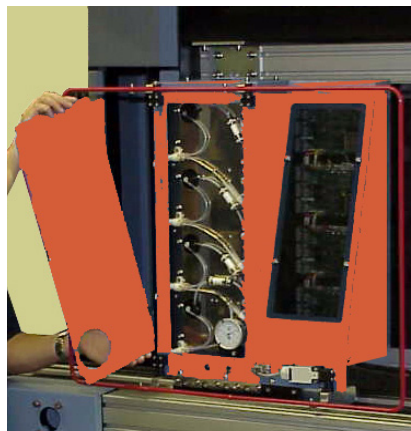


Figure 45. Removing Front Panel from Head Carriage Cover

4. Carefully disconnect the thin rubber tube connecting the uppermost print head to its secondary ink tank, attaching absorbent paper onto the end of the tube to absorb ink flow.
5. Disconnect the inlet and outlet tubes from the ink filter - see [Figure 46](#).

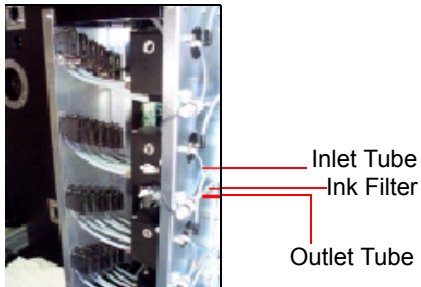


Figure 46. Ink Filter and Tubes

6. Remove the ink filter and dispose of it by taking the necessary precautions.

CAUTION



Dispose of waste material in accordance with individual country safety requirements and local authority regulations.

7. Remove a new ink filter from its plastic packet and fit it into position, making sure that the arrow marked on the side is facing in the correct direction as shown in [Figure 44](#) on page 4-2.

WARNING



Ink flow through the filter must be in the same direction as that marked by the arrow!

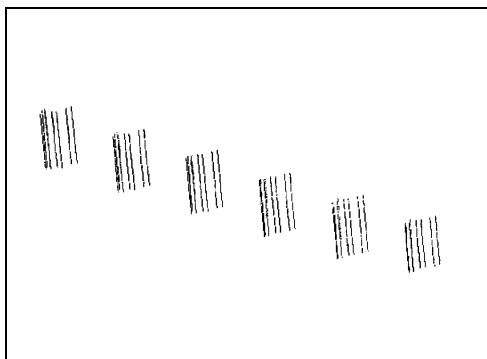
8. Connect the inlet and outlet tubes to the new filter.
9. Connect the ink tube to the secondary ink tank.
10. Repeat [Step 4](#) through [Step 9](#), for the remaining ink filters in the *black* ink group.
11. Repeat [Step 4](#) through [Step 9](#) for each of the filters in the remaining ink color groups - *yellow*, *magenta*, and *cyan*, respectively.
12. Check all ink tubes and filter connections for each ink color and **make sure there is no ink leakage**.
13. Open the main air pressure valves on the main ink tanks.
14. Replace the panel (removed in [Step 3](#)) on the front of the head carriage cover and screw firmly into position.

15. Test the print heads for leakage, by proceeding as follows:

With *black* ink spraying, steadily hold a sheet of white, A4-sized paper at a short distance in front of the print heads.

Move the paper slightly in a horizontal direction (to left or right) for a short distance (approx 1cm).

As the ink sprays onto the paper, six blocks of 6 thin vertical lines appear, as shown in this example:



Each block of printed lines corresponds to the print head arrangement on the head carriage - see [Figure 47](#).

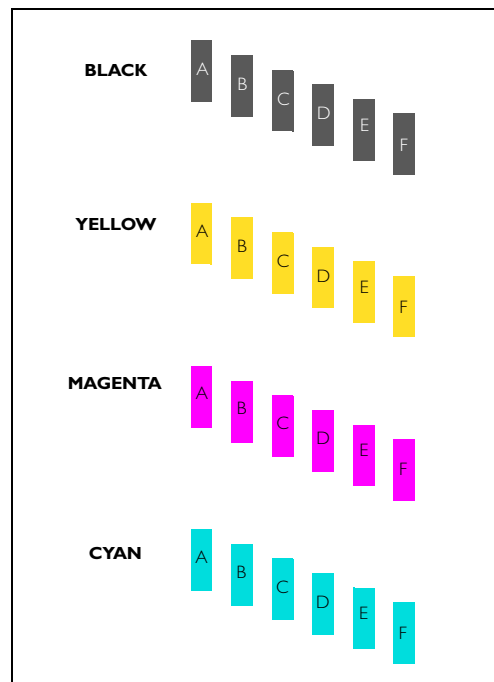


Figure 47. **Print Head Arrangement on Head Carriage**

16. Inspect each of the six printed blocks and verify that all lines are sprayed evenly, and that no portions of a line are missing.
17. Repeat [Step 15](#) through [Step 16](#) for each of the remaining colors: *yellow, magenta, and cyan*.

18. Release the Emergency Stop button by slightly twisting the metal ring beneath the top of the button, until it pops up and is now in the *ready* position.

CAUTION



Whenever performing this checking procedure, it is important to make sure that the Emergency Stop button is enabled ([Step 18](#)) and ready for immediate use in the event of an emergency.

The ink filter replacement procedure is now complete and the Grandjet Classic printer is ready to start printing.

Chapter 5

General Maintenance



Contents at a glance ...

Replacing a Print Head 5-2

Replacing a Print Head

The procedure described in this section may be performed at any stage at which it becomes necessary to replace one or more of the Grandjet Classic print heads. In maintaining reliable system performance, print head replacement will ensure dependable, high quality print output. The twenty-four print heads, which are precisely arranged on the head carriage in four arrays of six, are grouped according to color as shown in Figure 48.

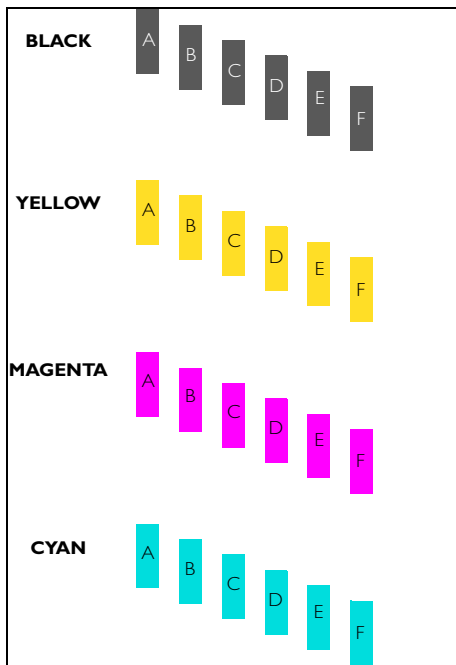


Figure 48. Print Head Arrangement on Head Carriage

Before commencing the head replacement procedure, check that the following equipment is readily at hand:

- Required number of *new* print heads
- Plastic spray bottle* filled with solvent
- Additional solvent
- Glass syringe 50cc*
- Silicone tubing (to attach to syringe)
- Phillips screwdriver (small)*
- Allen key No 2*

*supplied with the system



note Using disposable paper wipes while performing this procedure, will help to keep the Grandjet Classic printer clean.

When changing a print head, it is important that the surfaces of the *print heads you are not replacing* stay wet, therefore spray them repeatedly with solvent as necessary.



WARNING

When replacing a print head, the 35V power supply should be switched OFF (as described in the procedure instructions).

Do not leave the print heads disconnected from the 35V power for prolonged periods, since this may cause damage to the heads!

Replacing a Print Head

1. Make sure that the head carriage is in the *home* position, as shown in [Figure 49](#).

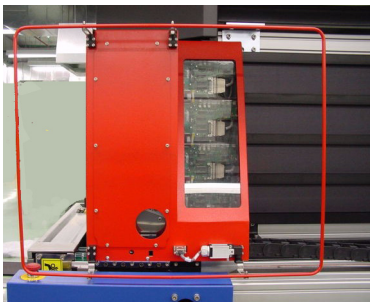


Figure 49. Head Carriage in Home Position

2. Using the plastic spray bottle filled with *clean* solvent, thoroughly wet all the print heads you are *not* replacing - see [Figure 50](#).



Figure 50. Spraying the Print Heads with Solvent

3. Remove the residue from each print head in turn, by holding the vacuum cleaner rubber pipe firmly against the print head (see [Figure 51](#)) while pressing the vacuum button.



Figure 51. Removing Ink Residue from the Heads

WARNING



Take special care to avoid contact or scratching the surface of the print heads with the vacuum cleaner pipe.

4. From the Grandjet Classic main screen, click on the Maintenance icon.



The Maintenance dialog box opens - see [Figure 52](#).

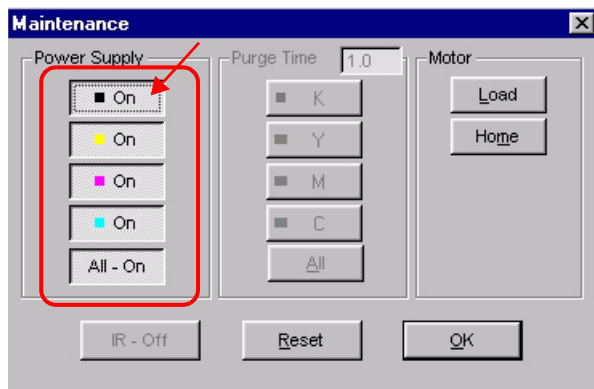


Figure 52. **Maintenance Dialog Box - 35V Power ON**

5. Under the *Power Supply* controls, turn **OFF** the 35V power supply to the print heads in accordance with the respective color to be changed. (In this example, we will begin by turning off the heads that use *black* ink by clicking the appropriate black button  [which is currently in the On status as shown in [Figure 52](#)]).
6. Disconnect the air tube from the appropriate secondary ink tank (in accordance with the *black* print head to be changed) and in place of this, insert the black plastic stopper (to create a vacuum inside the secondary tank) - see [Figure 53](#).

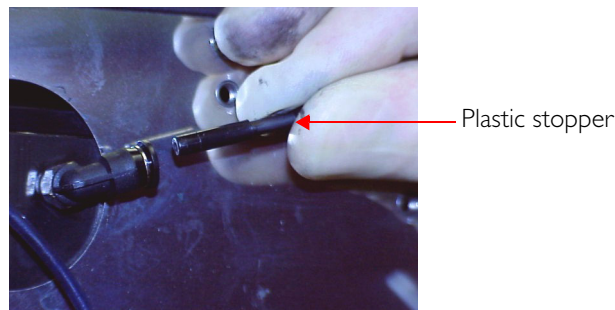


Figure 53. **Inserting the Stopper**

7. Carefully unscrew (in a *counter-clockwise* direction) and disconnect the ink pipe plastic coupler from the secondary ink tank as shown in [Figure 54](#).

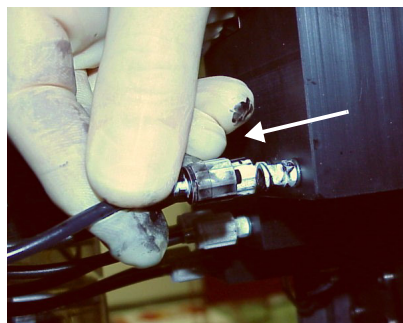


Figure 54. **Removing Plastic Coupler from the Secondary Tank**

8. Screw a white plastic cap onto the nipple and gently turn in a *clockwise* direction for half a turn to seal it - see [Figure 55](#).

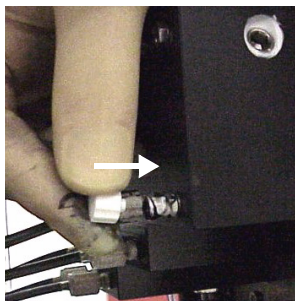


Figure 55. **Fitting Plastic Cap**



Plastic cap

9. Disconnect and remove the flat cable from the defective print head - see [Figure 56](#).

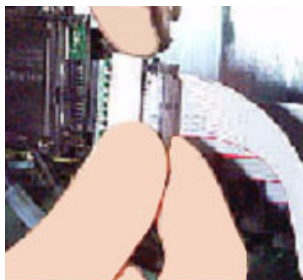


Figure 56. **Disconnecting Ribbon Cable**

10. Carefully unscrew each of the two small Phillips screws that hold the print head in position within the slotted metal plate on the head carriage, as shown in [Figure 57](#) - see also Caution below.



Figure 57. **Removing the Print Head from the Head Carriage**

11. Using the 2 mm Allen key, remove the adapter from the head; discard the defective print head.

CAUTION



Dispose of the used print head in accordance with individual country safety requirements and local authority regulations.

12. Repeat [Step 6](#) through [Step 11](#) for any other defective print heads that use *black* ink.
13. Remove a new print head from its nylon packet and using the glass syringe (provided) and a short length of spare silicone tubing, flush the head with air to expel as much surplus oil as possible.

note



Each new print head is packed in a sealed nylon packet containing protective oil.

14. Disconnect the syringe and tubing from the new print head. With the spare tubing still attached to the syringe, fill the syringe with 50 cc *clean* solvent.
15. Reattach the syringe and spare tubing to the new print head and carefully flush it with solvent to remove any residual oil - see [Figure 58](#).



Figure 58. **Flushing a New Print Head with Solvent**

16. Disconnect the syringe and spare tubing from the new print head.
17. Carefully remove the tubing from the tubing holder on the new print head and mount the head holder adapter onto the head, using the Allen key to secure firmly - see [Figure 59](#).

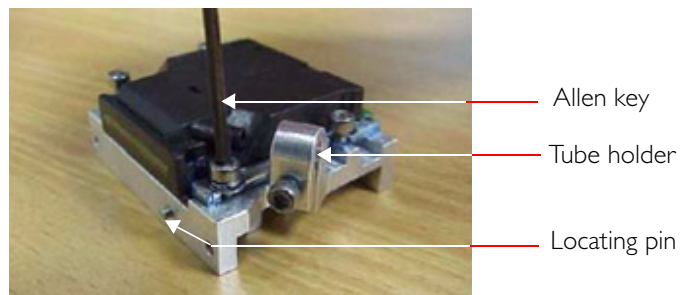
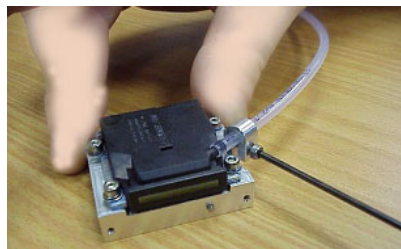


Figure 59. **Mounting Head Holder Adaptor onto the Print Head**

18. Replace the tubing and tighten the screw on the tube holder to secure it firmly in position:



19. Repeat [Step 13](#) through [Step 18](#) to prepare any other new print heads that will use *black* ink.

CAUTION



Remember to keep the surfaces of the print heads you are not replacing wet, by spraying them repeatedly with solvent as described in [Step 2](#).

20. Working from the inside of the head carriage, and the uppermost group of heads (*black*), carefully mount one of the new print heads into the innermost available slot (refer to [Figure 48](#) on page 5-2 and work outwards from A to F), proceeding as follows:

With the new print head facing *outwards*, fit it into the empty slot, carefully holding the head (complete with head holder) in one hand, while steadying the protective plate with the other hand.

Carefully adjust the head and the protective plate so that the locating pin hole and top and bottom screw holes are properly aligned (see Caution on [page 5-5](#)), to enable the screws and locating pin to pass through the plate when the head holder is screwed into position.

21. Fit the print head locating pin into the locating pin hole and, with the head and protective plate correctly aligned with the slot, carefully tighten the two small Phillips screws (removed in [Step 10](#)) onto the metal plate, screwing them very gently into the head holder and making sure that the print head is secured firmly in position, and completely flush with the head carriage surface.

CAUTION

When tightening the screws, making sure you do not tighten them too tightly but that the print head is firmly secured and unable to move.

22. Fit the end of the plastic connecting pipe (attached to the print head) to the corresponding secondary ink tank on the print head carriage by inserting the plastic coupler into the inner cavity of the plastic nipple (see [Figure 60](#) below). Gently turn the screw coupling in a *clockwise* direction for half a turn.



Figure 60. **Fitting the Plastic Pipe to the Secondary Ink Tank**

CAUTION

Do not turn the screw coupling too tightly or you will damage the thread.

23. Repeat [Step 20](#) through [Step 22](#) to mount any other new print heads that will use *black* ink.
24. Reconnect the ribbon cable/s to the new print head/s (removed in [Step 9](#)).
25. From the Maintenance dialog box, and under the *Power Supply* controls, turn **ON** the 35V power supply to the print heads that use *black* ink by clicking the same button used in [Step 5](#) (and which is currently in the *Off* status).

26. Click 

The 35V power to the print heads is restored.

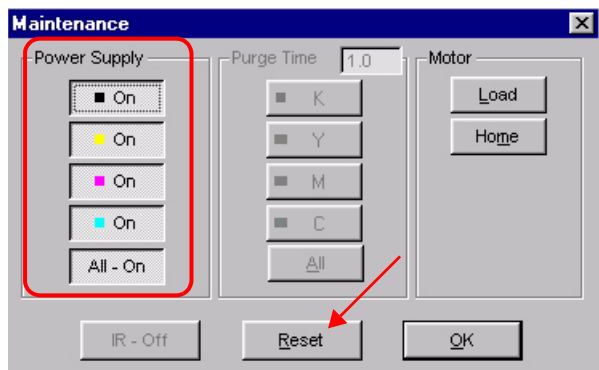
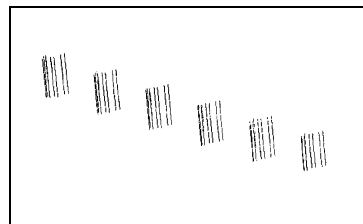


Figure 61. Maintenance Dialog Box - 35V Power ON

27. Thoroughly wet all the print heads with *clean* solvent, using the plastic spray bottle.
28. Suck solvent through each newly replaced print head in turn, holding the vacuum cleaner rubber pipe firmly against the print head (see [Figure 51](#)) while pressing the vacuum button, until ink comes through the head and is visible in the ink pipe.
29. With *black* ink spraying, steadily hold a sheet of white, A4-sized paper at a short distance in front of the print heads.

Move the paper slightly in a horizontal direction (to left or right) for a short distance (approx 1cm).

As the ink sprays onto the paper, six blocks of 6 thin vertical lines appear, as shown in the following example:



Each block of printed lines corresponds to the print head arrangement on the head carriage - see [Figure 48](#) on page 5-2.

30. Inspect each of the six printed blocks and verify that all lines are sprayed evenly, and that no portions of a line are missing.

Replacement of defective print heads that use black ink is now complete.

31. Working downwards (color by color; *yellow*, then *magenta*, then *cyan*) and outwards (from A to F [not in reverse order]), repeat [Step 5](#) through [Step 30](#) for any other print heads which need to be replaced.



While performing this procedure, switch OFF the 35V Power to the corresponding group of print heads - yellow, magenta, or cyan, as appropriate (see [Step 5](#)).

Remember to keep the print heads you are not replacing wet, by spraying with solvent.